

and stones, which are certainly prettier and more natural than the gravel and blankets used for the same purpose in our Zoological Gardens. But the difficulty seems to be that the animals conceal themselves and are not easily extracted from their hiding-places, whereas a blanket is readily unfolded when the occasion requires, and is more easily kept clean and tidy.

There can be no question of the great improvement of this house as compared with its predecessor, nor of its superiority to the Reptile-house in our Zoological Society's Gardens, so far as concerns space and arrangement. But as regards the extent of the collection, we believe the London Society still holds its own.

NOTES

SEVENTY-FIVE cases of specimens taken by the *Challenger* expedition have been received at the Admiralty from Prof. Wyville Thomson.

THE vessel bearing the French Transit Expedition, under charge of M. Janssen, was caught in the typhoon which swept over Hong Kong on Sept. 23; although the ship appears to have suffered, the *personnel* and apparatus are happily safe. We may state that M. Janssen's wife accompanies him.

FROM the list of the lectures to be delivered during the present term at Oxford, on subjects connected with Natural Science, the want of organisation among the teachers of its different branches is but too apparent. The four biological courses—by Prof. Rolleston (1), Mr. Lankester at Exeter College (2), Mr. Barclay Thompson at Christ Church (3), and Mr. Chapman at Magdalen (4)—are to be on (1) The Comparative Anatomy of Vertebrata, (2) The Structure and Genealogy of Vertebrata, (3) Ichthyic Anatomy, (4) The Anatomy of Vertebrata; so that no provision is made for those who are studying Human Anatomy, nor the Invertebrata. Histology fares hardly any better, for its rapid progress during the last few years has quite overthrown the practical microscopy of ten years ago. The Professor of Experimental Philosophy and Dr. Lee's Reader in Physics are also both to lecture on Electricity.

SIGNOR L. M. D'ALBERTIS, the Italian naturalist, who recently ascended the Arfak Mountains in New Guinea and made so many important discoveries, is now at Genoa preparing for a fresh expedition into the same country, and will leave Europe in about a month's time. On this occasion the traveller will endeavour to penetrate into the southern part of that *terra incognita*, that is into the district adjacent to Torres Straits, where mountain-ranges of considerable altitude are known to exist. Should he succeed in his arduous enterprise, there can be no doubt that he will reap an abundant harvest, as the zoology of this part of New Guinea is absolutely unexplored.

SIGNOR D'ALBERTIS' former companion, the distinguished botanist, Dr. Beccari, is still in the East. His last letters, dated at Macassar in August last, announce his recent return there from an excursion into the south-eastern districts of Celebes. We believe that Dr. Beccari also is preparing for a fresh expedition to New Guinea.

UNDER the sanction of the trustees of the British Museum, the course of twelve lectures on Geology, which the liberal endowment of Dr. Swiney makes free to the public, will this year be delivered by Dr. Carpenter, at the Birkbeck Literary and Scientific Institution, Southampton Buildings, Chancery Lane, on Saturday evenings, at half-past seven o'clock, commencing Saturday next. We understand that the main purpose of the course will be to elucidate the past history of the earth by the study of the changes at present in progress; and that the course

will include an account of the lecturer's own researches in the deep sea. It will be illustrated by an extensive series of photographs and paintings, exhibited by the oxy-hydrogen lantern.

THE South African correspondent who sent us the Natural History Notes which appeared in NATURE, vol. x. p. 486, is Mr. J. P. Mansell Weale.

It has been decided to publish, as a yearly volume, a Record of Works on Geology, Mineralogy, and Palæontology, British and Foreign. The first volume will be printed by the middle of 1875, and will contain short abstracts or notices of papers, books, maps, &c.; published during the year 1874. It is estimated that this volume will contain from 200 to 300 pages, and that its price will be 10s. 6d. The gentlemen named below have volunteered to assist in the work, which has already been begun. Those marked * have taken charge of various sections (as sub-editors), and the last has undertaken the post of general editor:—* W. Carruthers, F.R.S. (British Museum); C. E. De Rance, F.G.S. (Geological Survey); R. Etheridge, jun., F.G.S. (Geological Survey of Scotland); D. Forbes, F.R.S.; Prof. Geikie, F.R.S. (director of the Geological Survey of Scotland); * Prof. A. H. Green, F.G.S.; Prof. T. R. Jones, F.R.S.; A. J. Jukes-Browne, F.G.S. (Geological Survey); * G. A. Lebour, F.G.S.; * L. C. Miall (Leeds Museum); E. T. Newton, F.G.S. (Jermyn Street Museum); Dr. H. A. Nicholson, F.G.S.; * F. W. Rudler, F.G.S. (Jermyn Street Museum); E. B. Tawney, F.G.S. (Bristol Museum); * W. Topley, F.G.S. (Geological Survey); Henry Woodward, F.R.S. (British Museum); H. B. Woodward, F.G.S. (Geological Survey); W. Whitaker, F.G.S. (Geological Survey). The work will be greatly helped if Provincial Societies and Field Clubs will forward copies of their publications to the editor. It is hoped, from the low price, that the number of subscribers will be enough to cover the expenses of printing; but should this not be the case, a number of eminent scientific gentlemen have kindly consented to act as guarantors. Names of intending subscribers, and of societies and institutions that will purchase the Record for 1874, will be gladly received by the editor.

MR. WILLIAM DITTMAR, F.R.S.E., Lecturer on Chemistry at Owens College, Manchester, has been appointed Professor of Chemistry at Anderson's University, Glasgow, in the place of Dr. Thorpe, who has been elected Professor of Chemistry at the Yorkshire College of Science.

DR. WILLIAM STIRLING has been appointed assistant to Dr. Rutherford, the newly elected Professor of Physiology in the University of Edinburgh.

DR. JAMES APJOHN has resigned his appointment of Professor of Chemistry in the Medical School of Trinity College, Dublin.

MR. BRYCE M. WRIGHT, the well-known collector of fossils, who for some time past had been far from well, died last week.

A NEW wing has been quite recently added to King's College, London, by means of which considerable improvements have been made in the Physiological Laboratory and the Dissecting Room.

Two scholarships in Science, of the value of 100l. each, have this year been awarded at St. Bartholomew's Hospital; one to Mr. Coates, of Balliol College, Oxford, the other to Mr. Saunders, of Downing College, Cambridge, these gentlemen having been coupled as of equal merit for the first place in the competition.

THE following gentlemen have been elected to the vacant Natural Science Postmasterships in Merton College:—Mr. J. Larden, of Rugby School, and Mr. A. Macdonell, of Aberdeen University. The Delegates of Unattached Students of Oxford University give notice that the Master and Court

of Assistants of the Clothworkers' Company have offered three exhibitions of 50*l.* a year each, tenable for three years, for the encouragement of the study of natural science; the first examination to be held at the beginning of the Hilary Term 1875, at which time one exhibition will be awarded. Gentlemen who shall have matriculated in the present term, or who have not yet matriculated, are eligible for this exhibition.

THE following sonnet on the late Dr. Jeffries Wyman appears in the New York *Nation*, with the initials "J. R. L."—

"The wisest man could ask no more of Fate
Than to be simple, modest, manly, true,
Safe from the Many, honoured by the Few;
Nothing to court in World, or Church, or State,
But inwardly in secret to be great;
To feel mysterious Nature ever new,
To touch, if not to grasp, her endless clew,
And learn by each discovery how to wait;
To widen knowledge and escape the praise;
Wisely to teach, because more wise to learn;
To toil for Science, not to draw men's gaze,
But for her lore of self-denial stern;
That such a man could spring from our decays
Fans the soul's nobler faith until it burn."

A TELEGRAM from Berlin states that Major von Mechow will shortly start by sailing vessel from Rotterdam to succeed Dr. Lohde, who is in ill health, in the military command of the scientific expedition which left Europe in June 1873, under the leadership of Dr. Gussfeldt, for the exploration of Central Africa. The Berlin African Society will also send out a second expedition under the leadership of Captain von Homeyer, which will leave at the end of December. It will first proceed to Canandage, on the frontier of Angola, and will endeavour to reach the capital of Muata-Jamvo.

THE Austro-Hungarian explorers of the North Pole are preparing a popular edition of their adventures, as well as a scientific narrative.

WE learn from *Iron* that a scheme has been recently devised for supplying London with an inflammable mixture of gases to replace coal. The new gas, termed "pyrogen," consists of a mixture of nitrogen and carbonic oxide, three-fourths by weight consisting of the latter gas. The temperature of combustion of the mixture is stated to be 2,700° C.; and for heating purposes the flame of the burning gas is to be allowed to raise some good radiating substance to incandescence in an ordinary grate. It is justly pointed out that with our present arrangements three-fifths of the available heat of coal are wasted, but, on the other hand, it must not be forgotten that on the proposed plan the force evolved in the oxidation of the carbon (in whatever form it is made use of) to carbonic oxide is likewise wasted. We should prefer, on the whole, to see some feasible plan for utilising the waste heat of coal, as the highly poisonous nature of carbonic oxide would, in the absence of all other objections, be a serious obstacle to its introduction into our dwelling-houses.

AT an influential meeting held at Manchester on Monday, to take measures to secure some permanent memorial of the late Sir William Fairbairn, it was resolved to raise funds for the purpose by public subscription, and "that the permanent memorial of Sir William Fairbairn be in the form of a statue of such a character and to be placed in such a position as may be hereafter determined, and also for a scholarship or some other suitable endowment in connection with the Owens College." It was understood that the scholarship or endowment should have special reference to the teaching of engineering or pure mechanics.

MR. JOHN HORNE, of the Botanic Garden, Mauritius, who is now on a botanical expedition in the Seychelles, writing to Dr. Hooker, says that he has visited the islands of Silhouette,

Praslin, and Félicité, searching them from the sea-shore to the tops of the highest hills, in Silhouette up to 2,200 ft., at which elevation Pitcher-plants abound, hanging in immense clusters over every stone, bush, and tree. Flowers of these *Nepenthes* were obtained, and arrangements made for procuring a good supply of plants. When these materials come to hand it will be seen whether the *Nepenthes* of Silhouette is different from the *N. wardii* which grows in Mahé. The tops of these mountains where the Pitchers grow have a perpetual moisture hanging over them, being almost constantly enveloped by mist and rain.

WE have received an excellent little Italian work—price only two francs, notwithstanding its many illustrations. It is entitled "*Parasiti Interni degli Animali Domestici*," and is a translation of the well-known little English work on the subject, by Dr. Spencer Cobbold, F.R.S. The Italians are very anxious to make themselves acquainted with English scientific works, and this translation by Dr. Tommasi, as well as the admirable translation of Huxley's "*Vertebrate Anatomy*" by Prof. Giglioli, show their earnestness.

THE fifth volume of the "*Annali del Museo Civico di Storia Naturale*" of Genoa, just issued, is occupied with an excellent memoir on the Ornithology of Borneo, prepared by Count Tommaso Salvadori, of Turin. The memoir is based on the collections made in Sarawak in 1865 and subsequent years, by the Marquis Giacomo Doria and Dr. Odoardo Beccari, which contained about 800 specimens. All previous authorities on the birds of Borneo have been consulted, and the result is a complete *résumé* of all that is yet known upon the ornithology of this most interesting country, which will be highly acceptable to naturalists.

AT two o'clock P.M. on the 18th inst. a severe shock of earthquake was felt at Malta. There was a heaving motion, accompanied by an explosive noise resembling the bursting of a shell. Eight slight shocks followed later. Several buildings are injured, but no casualties are reported.

A TELEGRAM, dated Bombay, Oct. 17, states that a cyclone in Bengal has caused a total interruption of telegraphic communication with Calcutta. Fifty miles of the line are reported to have been blown down, and a passenger train has been thrown off the rails. No further details of the damage done have yet been received.

THE Council of the Labour Representation League have drawn up a Report founded upon the resolutions adopted by the members at a meeting held some weeks since touching the endowed schools in their relation to technical education. The Report, which deals very fully with the question, and which will shortly be published *in extenso*, recommends a scheme of technical training under four heads, viz.—1. In our elementary board schools. 2. The secondary industrial schools. 3. The higher endowed schools, such as Eton, Harrow, &c. 4. The Science and Art Department at South Kensington. The scheme will be submitted to a general meeting of workmen and others interested in the question, for discussion and approval. The Council of the League express themselves very sanguine as to the beneficial results that would follow the adoption of the scheme. In connection with the subject of technical education we may state that the opening meeting of the members of the Artisans' Institute was held on the 14th inst., in the premises of the institution, Castle Street, St. Martin's Lane. The meeting was addressed by the Rev. H. Solly, Mr. Samuel Morley, M.P., Dr. Carpenter, and others, and the promoters are sanguine of its success in educating and elevating skilled workmen.

ON Monday evening a public meeting was held in the hall of Clanricarde College, Pembroke Square, Bayswater, Dr. J. H. Gladstone, F.R.S., presiding, to establish a popular society in

West London for the advancement of natural history and physical science. There was a very good attendance, chiefly of members of the various London field clubs. A number of ladies have been received as members, and working men are represented on the committee.

ACCORDING to the *Belgique Horticole*, Dr. Candèzi has invented a small photographic apparatus, which he calls a "scenograph," which consists simply of a stick and of a camera the size of an opera glass. To photograph a plant or other object, it is sufficient to place it in the focus of the scenograph for a minute or two. The negatives, it appears, can be purchased ready prepared.

THE opening of the School of Horticulture at Versailles, which was to have taken place on Oct. 1, is postponed till Dec. 1.

DR. A. CORLIEU states, in *La France Médicale* for Sept. 30, that he had occasion to search the registers of the parish of Saint Antoine, preserved in the National Library. It was in the cemetery of the Innocents, in that parish, that the dead bodies from the Hôtel-Dieu were interred; and Dr. Corlieu has ascertained that during the first six months of 1694 the deaths in the hospital amounted to 11,696. In 1873, during the same space of time, the mortality amounted to 770 for 925 beds.

THE additions to the Zoological Society's Gardens during the past week include a Chacma Baboon (*Cynocephalus porcarius*) from South Africa, presented by Mr. J. D. Lloyd; a Ducorps' Cockatoo (*Cacatua ducorpsi*) from the Solomon Islands, presented by Mr. F. J. Dean; two Lions (*Felis leo*) from South Africa; a Malbrouck Monkey (*Cercopithecus cynosurus*) from West Africa; a Sun Bittern (*Eurypyga helias*) from South America, deposited; two European Rollers (*Coracias garrula*), European; a Naked-throated Bell-bird (*Chasmorhynchus nudicollis*) from Bahia; a solitary Tinamou (*Tinamus solitarius*) from Rio de Janeiro, purchased.

SCIENTIFIC SERIALS

THE *Quarterly Journal of Microscopic Science* for this month commences with two articles which are of special interest to embryologists, and therefore to biologists generally. The former of these is by Mr. F. M. Balfour, entitled "A Preliminary Account of the Development of the Elasmobranch Fishes;" it occupies about forty pages, and is fully illustrated. The investigations were conducted at the Zoological Station at Naples, which illustrates the value of that institution, and the justifiableness of Dr. Dohrn's enthusiasm. The earliest stages of development are those most minutely described. The points of greatest interest made out are the following:—(1) The epiblast of the blastoderm in that part which corresponds to the caudal extremity of the future embryo, folds round inwards and becomes continuous with the deeper layers; which leads the author to conclude that, as the hypoblastic origin of the alimentary canal is connected with the presence of a food-yolk, and in origin its those animals which develop an "anus of Rusconi" is not so, the former is but an adaptation. (2) The notochord is shown to be developed from the hypoblast, the mesoblast forming a mass on each side of it. This may depend upon the mesoblast, whose lateral columns just referred to, are "split off, so to speak, from the hypoblast," also developing a median independent sheet; or it may be, which unbiassed observation undoubtedly supports, that the notochord is a true hypoblastic structure. The former of these views, as the author remarks, "proves too much," since it is clear that by the same method of reasoning we could prove the mesoblastic origin of any organ derived from the hypoblast and budded off into the mesoblast. If Mr. Balfour's fundamental fact is verified, it will much modify the argument as to the homology of organs as based upon their embryonic origin. (3) The medullary groove is quite flattened out in the cephalic region at the time that the canal is fully formed in the caudal. This paper is well worthy of careful study.—Mr. Ray Lankester writes on the development of the pond snail (*Lymnaea stagnalis*),

and on the early stages of other mollusca. He begins by describing the shell-gland, which is situated below the developing shell; he shows its presence in Lamellibranchs, Gasteropods, Pteropods, also in the Brachiopoda and *Loxosoma*. From this the question is asked whether it in any way corresponds to the pen of the Dibranchiate Cephalopoda and the internal shell of *Limax*. Reasons are given in favour of the plug, which is always found to occupy the shell-gland, being developed into the latter; but with regard to the former, the author, from originally holding the opinion that it has a similar origin, now thinks differently for the following reasons:—The pen of *Loligo* must correspond to the guard of the Belemnite, in which the phragmacone is aborted. This guard is only a sheath to the phragmacone, which again corresponds to the whole shell of *Spirula*. The shell of *Spirula* must have been preceded by the shell-gland, therefore the plug of the latter cannot have been the direct origin of the *Loligo* pen. The latter part of the paper discusses the development of the pond-snail in detail.—Mr. E. A. Schäfer describes an ingenious and much-improved microscope warm-stage, in which a mercury valve regulates the gas supply to a small circulating boiler. He remarks that much of the cooling is produced by the proximity of the objective, and suggests that this may be warmed by coiling a tube round it. It has always occurred to us to ask whether the heating of objectives does not injure, for the time being, their optical powers; as they are constructed so as to be achromatic, &c., at the average temperature of the air, and very slight differences must produce material changes in the distance between the lenses and their shape.

Bulletins de la Société d'Anthropologie de Paris, fascicule v. tome 8, 1874.—M. Topinard concludes his paper on the anthropology of Algiers, by drawing attention to the five periods which characterise the anthropological history of the colony, and which are those of the brown-skinned Kabyles; the light-skinned Kabyles; the Numidians, to whom we must refer the greater number of the Berber inscriptions hitherto found; the Romans, Arabs, and Turks; and lastly, the Aryans. M. Topinard is of opinion that in the fair and dark skinned Berbers we have a kindred race with our oldest West-European races, and that therefore, with due regard to locality, we have evidence that European colonies could be made, like those tribes, to flourish in various parts of Algiers. In the meanwhile, however, as General Faidherbe has remarked, it becomes a question of political as well as ethnological importance to investigate and, if possible, arrest the causes which are diminishing the numbers of the native population, whose existence is the more important from their being the best able to bear the climate and cultivate the soil. M. Topinard considers that the mortality among the native races is not to be referred with any special prominence to diseases introduced by Europeans, but is due very much more to a natural scrofulous diathesis antecedent among them, to any imported constitutional taint, while famine, war, and many other causes depending upon political conditions are probably the most important agents in the process.—M. de Mortillet has recalled the attention of the Society to M. l'Abbé Bourgeois' assumed evidence of the existence of man at the base of the Miocene or mean Tertiary, while he presented to them one of the latest of the Abbé's finds of flint implements from the Miocene beds at Thenay, and which in its longitudinal lines showed unmistakable traces of cutting. The speaker pointed out that since the foundation of the calcareous beds at Beauce, and the deposit of the flints at Thenay, the mammalian fauna has been renewed at least three times, while the differences between the extinct and living fauna are sufficient to justify the acceptance of the supervention of specific genera. The question of the existence of man in the mean Tertiary period rests, however, for the present, open, and must await further discoveries of a less questionable nature before it can obtain an unassailable solution.—M. Onimus, in a paper on language, has considered at length the importance of reflex action generally on all phenomena of the nervous system and on the intellectual functions, illustrating his point by reference to the changes in the faculty of speech which give rise to aphasia, and considering the manner in which the latter lesion is modified by the previous and normal mental condition of the patient. This number also contains a suggestive paper, by Madame C. Royer, on the mathematical laws of reversion through atavism; notes by M. Bataillard on the Gipsies of Algiers; and a report of the hairy dog-man of Kostroma, in whom an abnormal development of the hair of the head and the down on the face and neck, combined with considerable prognathism, has simulated the characters of the canine head.